Claims

[Claim 1] A needle protector assembly (10) comprising a needle defining an axial direction and a protective cover (20) for the needle,
wherein the needle is attached to a needle hub which is provided with wings (16) on opposite sides thereof and which can be moved relative to the protective cover (20) between a distal position in which at least a tip of the needle protrudes from the protective cover (20), and a proximal position in which the needle is fully received in the protective cover (20),
wherein the protective cover (20) comprises first and second parts (26, 28) which together form an elongate housing along which the needle hub can move between the distal and proximal positions,
wherein the first and second parts (26, 28) define elongate slots (46) on opposite sides of the housing through which the wings (16) protrude, and
wherein the first and second parts (26, 28) are connected to one another by means of a film hinge in the region of a first axial end (22) of the housing and by means of a latching mechanism in the region of a second axial end (24) of the housing.

[Claim 2] A needle protector assembly (10) in accordance with claim 1, characterized in that
the film hinge is formed from two bridges or links (40) which are arranged on opposite sides of an opening at an axial end (22) of the housing.

[Claim 3] A needle protector assembly (10) in accordance with claim 1 or 2, characterized in that
the first axial end of the housing is a distal end (22) and the second axial end of the housing is a proximal end (24).

[Claim 4] A needle protector assembly (10) in accordance with any one of the preceding claims,
characterized in that
the first and second parts (26, 28) form a tube-like housing portion (30) for guiding the needle hub in the axial direction.

[Claim 5] A needle protector assembly (10) in accordance with any one of the preceding claims,
characterized in that
at least one of the first and second parts (26, 28) has an inner surface

which defines a guide channel (34) having a cross-section that is adapted to an outer profile of a portion of the needle hub.

[Claim 6] A needle protector assembly (10) in accordance with any one of the preceding claims,
c h a r a c t e r i z e d in that
the first and second parts (26, 28) form a flat housing portion (32) in the region of a proximal end of the tube-like housing portion (30), the flat housing portion (32) defining an internal passage (38) in which the needle hub is received when the needle hub is in the proximal position.

[Claim 7] A needle protector assembly (10) in accordance with any one of the preceding claims,
c h a r a c t e r i z e d in that
the latching mechanism comprises at least one snap arm (42) at one of the first and second parts (26, 28) for engagement with a respective latch opening (44) in the respective other one of the first and second parts (26, 28).

[Claim 8] A needle protector assembly (10) in accordance with any one of the preceding claims,
c h a r a c t e r i z e d by
a locking mechanism adapted to secure the needle hub in the proximal position.

[Claim 9] A needle protector assembly (10) in accordance with claim 8,
c h a r a c t e r i z e d in that
the locking mechanism comprises a pair of first and second locking means engaging with each other when the needle hub is in the proximal position, wherein the first locking means is provided on the needle hub and the second locking means is provided on the protective cover (20).

[Claim 10] A needle protector assembly in accordance with claim 9,
c h a r a c t e r i z e d in that
the first locking means is formed integrally with the needle hub.

[Claim 11] A needle protector assembly in accordance with claim 9 or 10,
c h a r a c t e r i z e d in that
the first locking means comprises a protrusion protruding from the needle hub and, in particular, has a generally nose-like or ramp-like shape, with its radial dimension increasing towards the tip of the needle.

[Claim 12] A needle protector assembly in accordance with any one of claims 9 to 11,

c h a r a c t e r i z e d in that
the first locking means is formed such that a radial dimension of the first locking means can be reduced against a restoring force, the first locking means in particular being formed from a material having elastic properties.

[Claim 13] A needle protector assembly in accordance with any one of claims 9 to 12,
c h a r a c t e r i z e d in that
the second locking means comprises an opening in the protective cover (20), which is adapted to receive the first locking means when the needle hub is in the proximal position.

[Claim 14] A needle protector assembly in accordance with any one of claims 9 to 13,
c h a r a c t e r i z e d in that
the second locking means comprises a locking tongue (54) extending towards a proximal end (24) of the protective cover (20) and adapted to engage with the first locking means, when the needle hub is in the proximal position.

[Claim 15] A needle protector assembly in accordance with claim 14,
c h a r a c t e r i z e d in that
the locking tongue (54) has resilient properties and extends towards the interior of the protective cover (20) such that it is pushed outwards by the first locking means as the needle hub is moved towards its proximal position, and snaps back behind the first locking means once the needle hub has adopted its proximal position.

CLAIM

1. A needle protector assembly comprising a needle defining an axial direction and a protective cover for the needle,

wherein the needle is attached to a needle hub which is provided with wings on opposite sides thereof and which can be moved relative to the protective cover between a distal position in which at least a tip of the needle protrudes from the protective cover, and a proximal position in which the needle is fully received in the protective cover,

wherein the protective cover comprises first and second parts which together form an elongate housing along which the needle hub can move between the distal and proximal positions,

wherein the first and second parts define elongate slots on opposite sides of the housing through which the wings protrude, and

wherein the first and second parts are connected to one another by a film hinge in the region of a first axial end of the housing and by a latching mechanism in the region of a second axial end of the housing;

wherein a locking mechanism is provided which is adapted to secure the needle hub in the proximal position, wherein the locking mechanism comprises a pair of first and second locking means engaging with each other when the needle hub is in the proximal position, wherein the first locking means is provided on the needle hub and the second locking means is provided on the protective cover, and wherein the first locking means is formed such that a radial dimension of the first locking means is reduceable against a restoring force;

wherein the first locking means has a ramp-like shape with the radial dimension increasing towards the tip of the needle;

wherein the second locking means comprises an opening in the protective cover which is adapted to receive the first locking means when the needle hub is in the proximal position.

2. The needle protector assembly in accordance with claim 1, wherein the film hinge is formed from two bridges or links which are arranged on opposite sides of an opening at an axial end of the housing.

3. The needle protector assembly in accordance with claim 1, wherein the first axial end of the housing is a distal end and the second axial end of the housing is a proximal end.

4. The needle protector assembly in accordance with claim 1, wherein the first and second parts form a tube-like housing portion for guiding the needle hub in the axial direction.

5. The needle protector assembly in accordance with claim 1, wherein at least one of the first and second parts has an inner surface which defines a guide channel having a cross-section that is adapted to an outer profile of a portion of the needle hub.

6. The needle protector assembly in accordance with claim 1, wherein the first and second parts form a flat housing portion in the region of a proximal end of the tube-like housing portion, the flat housing portion defining an internal passage in which the needle hub is received when the needle hub is in the proximal position.

7. The needle protector assembly in accordance with claim 1, wherein the latching mechanism comprises at least one snap arm at one of the first and second parts for engagement with a respective latch opening in the respective other one of the first and second parts.

8. The needle protector assembly in accordance with

claim 1, wherein the first locking means is formed integrally with the needle hub.

9. The needle protector assembly in accordance with claim 1, wherein the first locking means is formed from a material having the elastic properties.

10. The needle protector assembly in accordance with claim 1, wherein the second locking means comprises a locking tongue extending towards a proximal end of the protective cover and adapted to engage with the first locking means, when the needle hub is in the proximal position.

11. The needle protector assembly in accordance with claim 10, wherein the locking tongue has resilient properties and extends towards the interior of the protective cover such that it is pushed outwards by the first locking means as the needle hub is moved towards its proximal position, and snaps back behind the first locking means once the needle hub has adopted its proximal position.